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ABSTRACT

Planning activities at higher education institutions should be comprehensive, program based, and long-range. The daily process of planning and the necessity of integrating planning and resource allocation into a single system are emphasized in this handbook, which deals only with centralized planning activities. The focus is on program merit, not political structures, as the dominant aspect of planning. Four schools that were resources for the development of the handbook are Ball State University, Eastfield (Texas) College, the University of Oklahoma, and Willamette University. The first step in developing a planning process is to assess the institution's need and desire for it. The next step is to identify and describe the context for planning, by conducting institutional studies, developing an education plan, and writing a description of the planning process to be implemented. Implementation and operation of the planning process is the third step. Techniques and steps for assessing the level of current planning and approaches to the design and implementation of a planning process are described. An annual planning cycle which can be modified to meet individual needs is outlined. A bibliography is included. (SW)

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# A Handbook for Institutional Academic and Program Planning:

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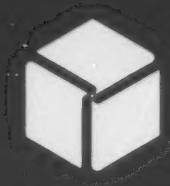

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# A Handbook for Institutional Academic and Program Planning: From Idea to Implementation

Raymond N. Kieft
Frank Armijo
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1978

National Center for Higher Education Management Systems
P.O. Drawer P Boulder, Colorado 80302
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# Foreword

*Economy of scarcity, resource reallocation,* and *centralized planning* are phrases only recently introduced in higher education. But they will take on a greater significance in the 1980s, as we experience enrollment declines and an increase in problems caused by inflation. In response to this anticipated economic crisis, numerous technical manuals and how-to handbooks have been produced. However, most of these manuals are inadequate, because they give too little attention to education's distinctive environment and mission. Most often, they do not take into account the preoccupation in higher education with process and data gathering and the idealistic commitment to respond to society's needs rather than society's wants.

The major value of the *Handbook for Institutional Academic and Program Planning* is its emphasis on *planning as a process.* Participation on the part of all constituencies in long-range planning is critical, because the quality of planning depends for its success upon those who will implement it. The authors perceive planning as continually evolving and yet understand that it is deeply related to everyday budgetmaking decisions. Thus in their words, the planning process must be "comprehensive, program based, and long-range."

The *Handbook* also recognizes that *planning is a means for implementing values.* Cost-effectiveness is important, but the mission of an institution should dictate its fiscal decisions. The authors recognize the

importance of questions about outcomes and the presence of the political structure of the institution.

The *Handbook* is an excellent introduction to the planning tools and processes that should be used to support an institution's mission. Since it is based on the authors' experience, much trial and error can be eliminated by following their procedures. The most important message that needs to be transmitted is that the process works.

Robert Lisensky
President
Willamette University
Salem, Oregon

# Preface

The *Handbook* is intended to help faculty and staff improve existing academic and program planning processes or design and implement new ones for institutions not engaged extensively in research, whether state colleges or universities, liberal-arts colleges, or community colleges. Thus many of the behavioral and value-laden aspects of planning germane to research universities, such as the political realities of subunit power, research and publication incentives, and national prestige rankings, while not ignored, have not been specifically addressed. (For a treatment of such aspects, see Pfeffer and Salancik [1974].)

This handbook is only one of several that can help institutions improve their planning. *Its uniqueness lies in its emphasis on the daily process of planning and on the necessity of integrating planning and resource allocation into a single system.* It does not extensively discuss the technical aspects of planning, for it assumes that the reader will consult the comprehensive discussions of these aspects already published (Kieft 1978; Millet, ed. 1977; National Association of College and University Business Officers 1975; and Parekh 1975).

Two other limitations of the *Handbook* should be noted. First, it deals only with *centralized* planning activities, in which institutional administrators, or their designated committees, have the discretion to allocate resources to academic and program units. This limitation of scope reflects the authors' conviction that centralized planning can best deal with the difficulties of resource reallocation. (Decentralized planning is

better suited for major research universities, in which the central administrative responsibility for planning is mainly providing service to subunits, which control resources. (For a treatment of decentralized planning, see Hoenack [1977].) Second, since the *Handbook* focuses on program merit, not political structures, as the dominant aspect of planning, institutions that are highly politicized or that have comprehensive collective-bargaining agreements may find parts of this document inconsistent with those structures. Even so, the various planning goals it describes should prove useful, regardless of the particular political environment or planning process of the institution.

The idea that NCHEMS should develop some type of a handbook for planning was first advanced during a meeting in May 1977 of the task force of advisors of the NCHEMS Intrainstitutional Planning, Management, and Evaluation (IIPME) project. Throughout the development of *Academic Planning: Four Institutional Case Studies* (Kieft 1978), a battery of questions from administrators in various institutions had been directed to NCHEMS regarding planning procedures and processes. These inquiries furnished strong evidence that some type of handbook, building on the case studies, would be a useful administrative aid. A decision to proceed with the development of such a handbook resulted from the May 1977 meeting.

At the outset of the developmental activity, a good variety of institutions was contacted to determine the maturity of their experience in planning and their willingness to serve as resource institutions to the project. As resource institutions, they would be asked to supply project staff with materials describing their planning activities and to furnish expertise in the way of institutional officers willing to meet with project staff and review document drafts, and serve in advisory roles. Project staff decided that the project would be best served by utilizing four institutions as resource institutions, each representing one of the major institutional categories. Project staff also determined that the most representative mix of four institutions willing to serve as resource institutions would be Ball State University, Eastfield (Texas) College, the University of Oklahoma, and Willamette University.

An initial draft of the *Handbook* was prepared on the basis of materials provided by each institution, information gained during campus visits and interviews with institutional officers and faculty, *Academic Planning*, and analysis of relevant literature. The draft was then critiqued by various faculty and staff from institutions other than the resource institutions. A second draft, revised in light of these critiques, was then reviewed by the IIPME Task Force and by individuals at the resource institutions. Final revisions were made to reflect their review.

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CHAPTER 1

# Introduction

In years past, planning in most colleges and universities could be characterized as informal, expansionary, and fragmented. It was casual, even haphazard, often amounting to deciding what to increase 6 percent, what 10, and what new program or service to begin. It was usually carried out by a few senior institutional administrators, each responsible for a major functional area—academic affairs, student affairs, budget, development, or physical plant. In each area, planning proceeded with a limited awareness of similar activities in other areas and little concern for compatibility. Administrators responsible for academic affairs worried about finding enough qualified faculty to handle additional courses demanded by growing enrollments; administrators for physical plant and other facilities concentrated on finding or building enough space to accommodate expanding enrollments; fiscal and budget administrators were mainly concerned with ensuring that the expected additional revenue (which virtually always materialized) was disbursed according to proper accounting procedures. Planning was planning for *more* in the late 1950s and 1960s, as an increasing share of tax dollars and private funds was channeled to higher education. Even at its best, institutional planning was short term, with emphasis on one year at a time.

In recent years, most institutions have created an assortment of committees to formulate plans for curriculum, facilities, fund raising, budget, housing, support services, and staff. These committees have sought to be more analytical, as befits the present situation of constrained resources.

Colleges and universities now find themselves called upon to serve new kinds of students and to accommodate different modes of learning. The general expectation is that the 1980s will be a decade of even tighter resources. Therefore institutions must plan to do more with the same or fewer resources (Carnegie Foundation for the Advancement of Teaching 1975).

The committee approach to planning cannot adequately meet this challenge. The primary thesis of this book is that most institutions need a formal, centralized, but yet flexible planning process focused on program development, improvement, and change. As an institution confronts new challenges, the need for comprehensive, long-range program planning will become evident. This *Handbook* can support the application of general planning principles to the specific needs of individual institutions.

It does not, however, exhaustively treat the subject. It does not explicate the technical aspects of planning, such as information-system design or data generation. Nor does it examine in detail the human dimension of planning, though it does alert the reader to the importance of that dimension. Many of the factors that can hinder effective planning, such as departmental rivalries, bureaucratic inertia, and intellectual snobbery, are not considered in the *Handbook,* except in passing. This is not to say that such factors can be ignored. Planning does not occur in a vacuum; in a sense, the term is itself a euphemism for the resolution of conflicts between competing interests (in many cases, competing colleagues) for the same resources. Successful planning resolves these inevitable conflicts not on the basis of institutional politics but rather on the degree to which proposed programs conform to institutional goals.

In addition, the introduction of a new planning process, like that of any new system, will disturb the status quo and provoke resistance. Implementation of centralized academic and program planning will alter existing power structures. Faculty and administrators may even try to sabotage the process by supporting it in theory (planning is to management as apple pie is to America) but not in practice. Such opposition can be best neutralized by strict adherence to the process itself, since it is designed to permit maximum participation in decisionmaking consistent with centralized authority and institutional goals.

The reader may find a related NCHEMS publication, *Academic Planning: Four Institutional Case Studies* (Kieft 1978) helpful in addressing these and other problems. *Academic Planning* documents the operation of the academic planning processes of four different types of institutions—a major research university, a regional state university, a four-year liberal-arts college, and a community-college district. These case studies include many planning forms, reporting formats, and descriptive charts that can save institutions considerable time and expense, though they will most

likely want to modify these aids to conform to their particular circumstances. Most important, these case studies provide evidence that institutions can successfully plan academic programs within limited budgets. In fact, some institutions may find the planning processes of the case-study institutions more relevant to their situations than the process described here.

## Planning-Process Characteristics

An academic and program planning process should be comprehensive, program based, and long range.

### COMPREHENSIVE

To be comprehensive, planning must incorporate the major institutional resource-allocation issues—personnel, support funds, equipment, and space—that is, the institution's *total* budget. The luxury of approving unexamined resource claims or making isolated budget judgments cannot be condoned when an institution's resources are strictly limited. The comprehensiveness of a planning system is evidenced by its consideration of all the institution's programs: instruction, student service, academic support, administrative service, financial aid, public service, research, auxiliary activities, and development. When resources are limited, the priorities established and judgments made as part of systematic planning must determine budgetary decisions.

### PROGRAM BASED

A planning process for a college or university is program based when both proposals and decisions are program centered. The proposals involve program initiation, maintenance, improvement, reduction, or deletion; the decisions concern allocation of resources. Systematic planning channels resources to support program objectives and to respond to evaluations of program effectiveness. Systematic planning is the basic process by which the institution should determine its budget and allot its resources to its program commitments.

### LONG RANGE

Long-range planning does more than develop budgets for the coming fiscal cycle (the limited function of most established planning processes). The long-range process is designed to both *establish* and *accomplish* program goals as well as establish budgets. The resource-allocation and budgetary decisions that flow from systematic planning are means to predetermined ends, not ends in themselves.

## Previous Work at NCHEMS

Work at NCHEMS on internal planning for colleges and universities began in 1973, when a faculty-activity matching model was developed for administrators of academic units. This model furnished an academic administrator (usually a department chairperson or dean) with procedures for

matching the faculty resources of the unit with its activities (courses, advising, committee assignments, and research). In 1974, this model was incorporated into a field-review edition of a publication that described how academic-unit profiles, based on common information, could be developed for unit administrators. Revised on the basis of field review, it appeared as *Academic Unit Planning and Management* (Miyataki and Byers 1976). It consists of six modules that identify the basic functions of an academic unit and describe the information items needed by the unit's administrators to plan and manage those functions. Included, for example, are descriptions of information items dealing with academic demand, faculty availability and assignment, physical-resource availability and assignment, source and use of funds, and outcomes.

Following the publication of *Academic Unit Planning and Management,* NCHEMS examined planning activities at a few representative institutions and documented their academic planning processes and procedures in the aforementioned *Academic Planning: Four Institutional Case Studies.* Those conclusions, which form the basis of the planning process described in chapter 4 of this *Handbook,* are summarized here.

1. Planning cannot be separated from the mainstream of institutional decisionmaking. Planning involves decisions that have future impact on institutional, unit, and program objectives; on programs to meet those objectives; and on the allocation and reallocation of resources to support those programs. Planning and resource allocation and reallocation must be linked in a decision process that identifies objectives and selects and develops programs to accomplish them. Planning and the allocation and reallocation of resources constitute a single system.
2. Planning is a future-oriented activity. Since the future cannot be precisely described, what is done to anticipate developments is inherently more likely to be inaccurate than what is done to meet current needs. Planning must therefore be a continuing, never completed process, not an ad hoc project, and must be designed accordingly. Its ongoing nature permits adjustments to accommodate unanticipated developments and to correct mistakes. Planning is cyclical and none of its various stages is final.
3. Planning must not be limited to quantifiable or measurable considerations. To be fully valuable, it must consider as many benefits and associated costs as possible. A planning process must be predicated on the understanding that much that is worthwhile in higher education is not measurable and, indeed, may be depreciated by attempts at quantification. However, this does not mean that quantification can be ignored or that the effort to measure quality and effectiveness should be abandoned.

4. A planning process should rationalize decisionmaking by minimizing its ad hoc character. The process should chart the future of the institution as a coherent whole and specify the appropriate allocation and reallocation of resources. All proposals therefore should be evaluated according to the same criteria. If participants in the planning process want to change plans already formulated and submitted, the proposed changes must be subject to the same rules as the original proposal. To the extent possible, then, all decisions reached during the planning process should be governed by the same priorities. No important decision can be made in isolation, because each allocation or reallocation of resources affects all other possible allocations or reallocations. Administrative allegiance to a planning process requires the maintenance of planning as the primary force in the determination of budget and the allocation and reallocation of resources. To minimize favoritism, planning must rationally integrate competing requests for resources. It must not be fragmentized. Successful planning requires that pressure politics and end-run tactics to circumvent the planning process be neutralized.

5. Strict schedules and calendars for planning activities are necessary. They put planning on an equal footing with other formally established institutional practices, create deadlines for the completion of tasks, and provide a defined basis for continuing evaluation. They should be established and incumbent responsibilities assigned and formally communicated to the institutional community far in advance of actual planning activities. Formal communication procedures lend visibility to and indicate the importance of planning.

6. Effective planning must be appropriately supported with staff expertise. In most cases, an executive position responsible for the facilitation and coordination of planning is necessary. Institutional researchers, facility administrators, and financial or budget analysts should be members of the planning staff. *Differentiated staffing arrangements should be investigated as a means for bringing faculty with appropriate expertise directly into the planning activities.* In order to staff the planning operation, it may be necessary to administratively reorganize and to recruit faculty and staff with requisite skills. Ultimate planning responsibility should lie with an executive officer having institution-wide responsibilities, such as the provost or executive vice-president. If an executive position is to be established to facilitate and coordinate the process, it is important that the person have an academic (faculty or administrative) background, since he or she must be perceived as acceptable for the task by the principal planning constituents (faculty, administrators, trustees).

7. Planning requires information about internal aspects of the institution. (The four case studies in *Academic Planning* contain examples of the types of internal information necessary.) These include:
   - Enrollment figures and long-term estimates by academic unit or program
   - Staffing figures and long-term estimates by academic unit or program
   - Tenure ratios and long-term estimates by academic unit or program
   - Long-term retirement and attrition estimates for faculty and staff
   - Present and long-term resource commitments to program maintenance
   - Qualitative as well as quantitative evidence that establishes the need for a particular program
   - Evidence of congruence between a particular program and the goals of the academic unit and the institution
   - Benefits to be derived from a program
   - Criteria to be used in evaluating the effectiveness of a program
   - Cost-benefit information
8. Planning requires information external to the institution as well. Each institution can best determine which external factors affect it most directly. (*Academic Planning* also contains examples of the types of external information necessary.) These include:
   - Local, state, and national economic trends
   - Student characteristics for the next 5 to 10 years
   - Employment and career opportunities
   - Labor trends
   - Social priorities
   - State or federal support of student-aid programs
   - The physical environment of the institution
9. The importance of planning within the institution is symbolized by the visible commitment of the institution's chief executive officer to planning. This commitment should be evident in the decisions eventually made by the chief executive and other executive officers. Where the board of control exerts considerable influence in operational matters, its commitment should be equally evident.
10. As a planning process becomes operational, it will become more mechanistic. Specific forms will be developed, with detailed instructions about how and when they should be completed, reviewed, modified, and revised. Specifications regarding who should do what will also be developed to avoid confusion and redundancy. Such specificity will facilitate implementation and operation.

11. Any planning process that seeks to establish priorities requires considerable time and energy from all participants. Administrators and faculty must often work overtime in developing and reviewing proposals, which may impede their performance of normal duties. Institutions contemplating establishment of a participatory process must be prepared to accommodate the work load it entails and possibly to provide appropriate released time. Time is also a factor in implementation of the process, for the many participants must be educated in its operation. Ideally, one year should be spent in designing, explaining, and pilot testing before actual implementation. The first year of implementation will be one of continual revision and adjustment, as theory becomes practice. Thus an institution should expect to spend two to three years developing an operational academic and program planning process.

In addition to these conclusions, three other areas essential to planning should be considered: the mission, role, and scope of the institution; the effect of collective bargaining; and the cost of planning.

### Mission, Role, and Scope: Prerequisite to Planning

The terms *mission, role,* and *scope* are associated with descriptions of a college or university. The three terms are used in conjunction with:

- The institution's rationale, constituents, and outcomes
- General guidelines for institutional advancement
- Relevance of the institution's goals to its social, economic, and political environment
- Character of and emphases within the institution's academic programs
- Character and quality of the institution's faculty
- Unique attributes of the institution

The planning process described here is based on the assumption that a mission, role, and scope statement has already been formulated to guide policies and programs developed through the process. The lack of such a statement could seriously jeopardize the success of planning. To assist institutions in formulating such a statement, the NCHEMS Mission, Role, and Scope Procedures project is developing a set of administrative aids, which should be available in 1979.

### Political Structures and Collective Bargaining

Planning can be viewed as a means for implementing values. An obvious question is *whose* values, and an admittedly simplistic answer is the *institution's.* Moving from often conflicting individual values to institutional values unavoidably involves political structures. Thus centralized planning will require value clarification and resolution through a political process structured in terms of the institution's power bases. The political structure will not unduly dominate planning if the planning process recognizes

program merit as the criterion for decisions, and if program development and budget formulation are not controlled by formal contracts, especially collective-bargaining agreements.

Institutions with collective-bargaining agreements that contractually include program development and budgetary formulation must design their planning activities in accordance with such arrangements. In institutions where the scope of bargaining includes the establishment of program-related goals, procedures for priority setting and program selection, and budget formulation, the effectiveness of yet another process (namely an academic and program planning process) that seeks to deal with these same matters is unclear. Moreover, where collective bargaining has polarized faculty and administration, a process that relies on consensus may be impossible or, at best, difficult to achieve. The legality of such an action might also be questionable, given the requirements of the contract.

### Cost of Planning

Since a planning process like that presented in chapter 4 will cost money, it must compete with other institutional programs for a share of limited resources. The expenditure of resources for planning will be most keenly felt in the area of time—faculty time devoted to preparation and review of plans, staff time devoted to the support of the process, and administrative time devoted to its coordination. The experiences of the resource institutions and the authors in developing this *Handbook* produced no reliable cost standard that an institution could use to determine its own probable costs of implementing such a process. Other than the cost involved in designating an executive administrator responsible for the facilitation and coordination of the process, the majority of costs are indirect (for example, a portion of the vice-president's time, an amount of computer time, time for planning-review council and faculty planning committee meetings). Though the authors of the *Handbook* believe that a planning process developed around their suggestions will be cost-effective, each institution should make its own determination.

### Organization of the *Handbook*

Chapter 2 provides an overview of the remainder of the *Handbook,* describes some approaches to the design and implementation of a planning process, and suggests techniques and steps for assessing the level of current planning (for example, what would happen if nothing were done). It should help an institution decide whether to proceed. Chapter 3 identifies and describes a context within which planning occurs. It also argues for the necessity of describing this context before planning is begun. Chapter 4 outlines an annual planning cycle that can be modified to meet individual needs.

Figure 1 (pages 9 and 10) lists the main items covered in chapters 2, 3, and 4.

FIGURE 1

ORGANIZATIONAL CHART OF THE *HANDBOOK*

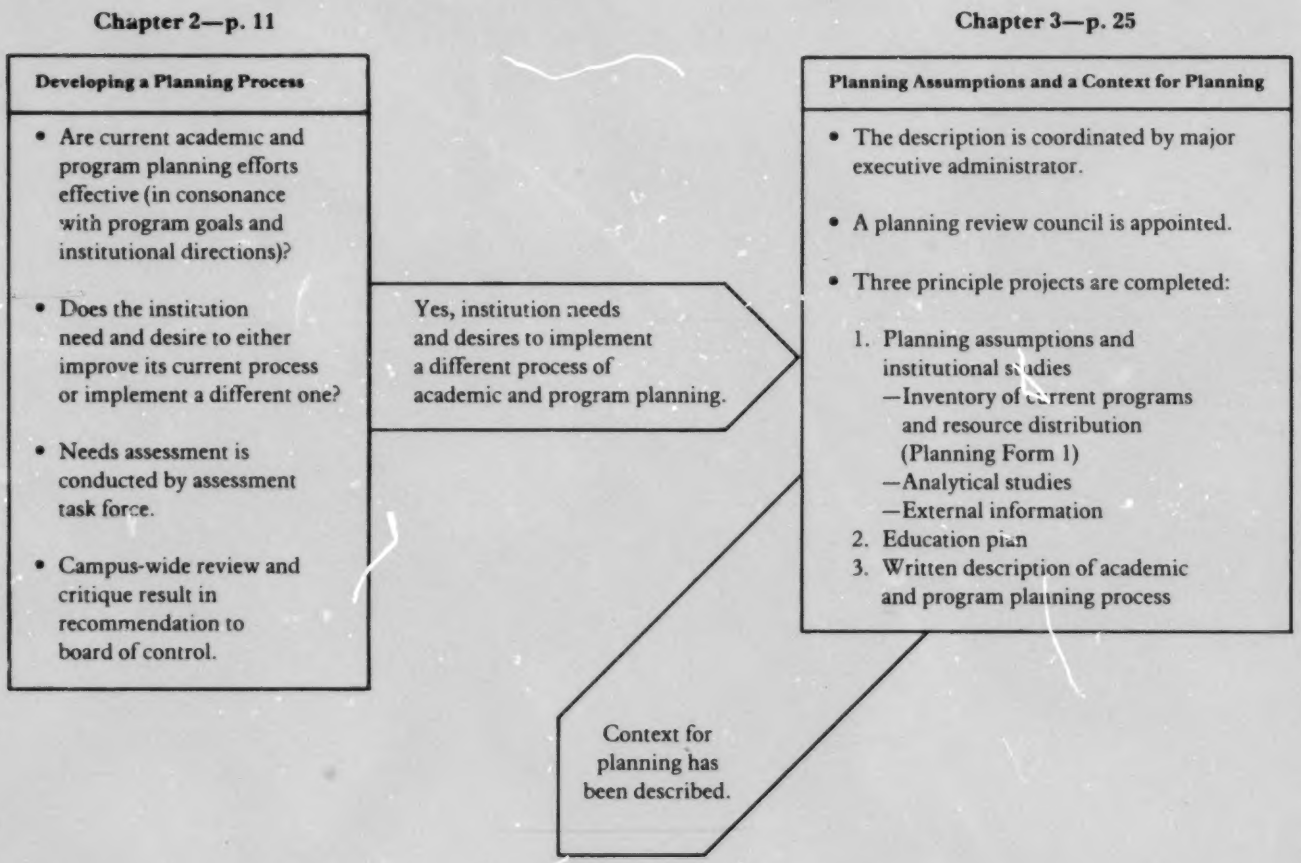

Chapter 2—p. 11
Developing a Planning Process
• Are current academic and program planning efforts effective (in consonance with program goals and institutional directions)?
• Does the institution need and desire to either improve its current process or implement a different one?
• Needs assessment is conducted by assessment task force.
• Campus-wide review and critique result in recommendation to board of control.
Yes, institution needs and desires to implement a different process of academic and program planning.
Chapter 3—p. 25
Planning Assumptions and a Context for Planning
• The description is coordinated by major executive administrator.
• A planning review council is appointed.
• Three principle projects are completed:
1. Planning assumptions and institutional studies
—Inventory of current programs and resource distribution (Planning Form 1)
—Analytical studies
—External information
2. Education plan
3. Written description of academic and program planning process
Context for planning has been described.

FIGURE 1—*continued*

**Chapter 4—p. 41**

| MONTH 1 | MONTH 2 - MONTH 4 | MONTH 5 - MONTH 7 | MONTH 8 - MONTH 10 | MONTH 11 - MONTH 12 |
|---|---|---|---|---|
| **Information for Planning** | **Preparation of Program Plans by Individual Planning Units** | **Review and Critique of Individual Program Plans and Preparation of Organizational-Unit Program Plan** | **Review and Critique of Organizational-Unit Program Plans and Preparation of Institution's Program Plan by Institution-wide Group** | **Review and Approval of Institution's Program Plan and Implementation of Planning Decisions** |
| 1. Enrollment projections (4-10 years)<br>2. Faculty-FTE projections (4-10 years)<br>3. Staff-FTE projections (4-10 years)<br>4. Cost and revenue projections (1-4 years) | 1. Planning unit appoints committee<br>2. Program plan developed<br>a. Program objectives<br>b. Planned activities<br>c. Resources required<br>3. Planning Form II<br>4. Planning Form III | 1. Organizational unit appoints committee<br>2. Review and critique of planning units' program plans<br>3. Planning Form IV<br>4. Program plan developed<br>5. Planning Form V<br>6. Planning Form VI<br>7. Report of planning decisions sent to individual planning units | 1. Institution-wide group formed<br>2. Review and critique of organizational units' program plans<br>3. Institution's program plan developed<br>4. Report of planning decisions sent to organizational units and to senate, president, and board of control | 1. Review of institution's program plan by senate, president, and board of control<br>2. Approval and adoption of program plan<br>3. Implementation of planning decisions:<br>• Curricular review<br>• Faculty recruitment<br>• Staff recruitment<br>• Personnel action<br>• Policy action<br>• Budget description<br>• Equipment orders<br>• Renovation orders<br>• Supplies orders |

CHAPTER 2

# Developing a Planning Process

## Developing a Planning Process: Step 1—Needs Assessment

The first step in developing a planning process is to assess the institution's need and desire for it. Case studies of institutional planning suggest that this evaluation should be carried out not by the institutional planning staff or office, but rather by an ad hoc assessment task force. The task force should comprise the organizational leaders of the institution—deans, vice-presidents, president, chancellor—and representatives of the leadership of major constituents (Kieft 1978). Faculty should always be represented on the task force, if only because many faculty possess relevant expertise in such areas as management science, information systems, and group behavior. Moreover, involvement of faculty, other major constituents, and organizational leaders in this initial phase will help the task force remain aware of internal political considerations, enhance the credibility of the assessment, and increase commitment to policies developed through planning.

In its evaluation, the task force will determine how well current planning helps the institution achieve its goals. The task force should assess institutional opinion on these eight questions:

1. Is decisionmaking coordinated?
2. Is there a shared sense of purpose and direction?
3. Is the planning process effective as well as efficient?
4. Is there extensive participation in the process?

5. Is there consensus about the mission, role, and scope of the institution?
6. To what extent does the academic program reflect the mission, role, and scope?
7. How well understood are the educational trends affecting the institution?
8. How well do programs respond to the needs of students?

### 1. Is decisionmaking coordinated?

Academic and program planning should chart the future of an institution by integrating program planning and resource allocation into a single process that produces a budget. Students of institutional planning have long recognized that planning is meaningful only insofar as it affects budget (Hoenack 1974).

Fundamental to the institution's educational program are decisions affecting curriculum, faculty and staff, budget, and space. The extent to which these decisions interact with and support one another indicates the effectiveness of planning. For example, decisions affecting program development should be informed by those regarding faculty and staff; in deciding to what extent a particular program can be reduced, for example, planners need to consider tenure commitments and patterns. These are some questions that might be usefully asked in assessing the coordination of decisionmaking: Are budgets determined after and in response to curriculum decisions? (Specifically, are funds allocated to a departmental budget to support the decision to increase the laboratory or field-experience component of a program?) Are curriculum decisions informed by space limitations or requirements? (Is there darkroom space available for program expansion into photojournalism?) If the answers to such questions indicate that the four kinds of decisions are not coordinated, then the planning process is most likely ineffective.

Planning should be concerned with the quality and fairness of decisions, and with making decisionmaking rational by eliminating ad hoc characteristics and minimizing subjectivity.

### 2. Is there a shared sense of purpose and direction?

Rational planning depends upon consensus within the institutional community regarding basic mission. Statements of institutional mission, role, and scope thus serve as cornerstones of any planning system (Balderston 1973).

Planning is especially difficult where diverse purposes characterize an institutional milieu. Postsecondary institutions harbor a bewildering variety of purposes and thus present a confusion of perspectives. For some, the institution may be primarily a center for research. Others may regard its main function as the preservation and transmission of cultural heritage, or teaching, or as a place to acquire credentials. All these views, however,

reflect a commitment to intellectual development, and all contribute to the communal life of an institution. But when in tension, they can divide an institution into many subcommunities, often at odds with one another. An academic and program planning process seeks to establish congruence with mission, role, and scope through the development at all levels of statements that first articulate the differing perspectives and then choose those that carry the institution toward fulfillment of its goals (Ping 1974).

3. Is planning effective as well as efficient?

A planning process must recognize colleges and universities as communities of persons with different perspectives and needs. To be effective, therefore, a planning process must accommodate the human element. Unfortunately, much of the literature about planning is written from a viewpoint that stresses *efficiency* at the expense of *effectiveness.* Simplistic measurement techniques and quantification schemes, often borrowed from industrial or corporate planning systems, have greatly influenced educational planning. This is indicated by the proliferation of terms like *cost-benefit analysis, marginal costs, cost efficiency, program budgeting, simulation-costing models,* and *costing procedures.* Until recently, the effectiveness factor has been virtually ignored (Adams, Hankins, and Schroeder 1977).

To avoid overemphasizing efficiency, a planning process should be predicated on the fact that much that is worthwhile in higher education eludes quantification, and, indeed, may be undermined by such attempts. It should accept Bowen's (1976) analogy: an institution of higher education is much like a human family—inefficient in certain aspects of its operation but necessarily so. To maintain a dining room that is used only once a week is an inefficient use of space; but if formal entertaining is important to the family, the separate dining room contributes to effective living.

It is essential, then, that a planning process correctly define productivity. To do so, it must avoid two common errors. The first, often found in processes that stress economy, is the propensity to assess productivity only in terms of costs. Here the underlying assumption is that any reduction in cost is to be applauded as an improvement in productivity, regardless of its impact on the institution's effectiveness. The second, usually made by academics and the academy-minded, is a propensity to assess productivity only in terms of outcomes. Here the underlying assumption is that any improvement in outcomes, however costly, is desirable. Both outlooks are faulty, because they ignore the fact that productivity is a relationship between two variables, costs and outcomes. In other words, productivity involves effectiveness as well as efficiency.

4. Is there extensive participation in the process?

Colleges and universities are dominated by a tradition of participatory governance. Authority for decisionmaking is usually shared, and no authority is absolute. In an institution with strong traditions of faculty

governance, programs and budgets should be planned on several levels by faculty. Wherever there are common interests, whether those of established structures such as academic departments, divisions, schools, colleges, or administrative units, or those of self-constituted interest groups, the opportunity to propose plans and request support should exist. Planning requires broad participation to ensure that the quality and substance of programs are rooted in the judgments of those responsible for instruction, research, and public service. Consequently, faculty and line administrators should occupy the central roles in academic and program planning. To ignore this fact in the design of a planning process can produce results that are usually unintended, often inane, and even harmful (Nutt 1977).

These initial proposals, which have been developed through extensive participation, are usually the results of tradeoffs between competing interests. In an academic department, for example, faculty may have to weigh conflicting demands for service and advanced courses, instruction and advising, and instructional and research uses of equipment. What is true for small academic units is also true for larger, more administrative units. The key issue remains the establishment of relative priorities in relation to resource allocation. In establishing priorities, one must be aware that a decision to begin one program often requires reducing or eliminating another.

What emerges from this second, or organizational-unit, level of review should be more than a collection of individual-unit proposals. Judgments must be made on the potential value of each proposal, both to the organizational unit and the institution. These judgments, which should reflect needs analyzed at a level as close as possible to the activity itself, will become the basis for subsequent decisions made for the entire institution.

The central administration usually performs the final review of proposals. It should evaluate organizational-unit proposals and priorities in light of the institutional mission. Fulfillment of the mission requires a balanced overview of the instructional program, academic support services, administrative services, student service, physical plant, capital improvement, development, financial aid, and auxiliary services. Recommendations that emerge from the final review produce a comprehensive institutional program.

5. Is there consensus about mission, role, and scope?

Collegiate institutions pride themselves on their openness to debate and discussion. Though *consensus* is an overworked term in higher education, and though it can be difficult to achieve (and even more difficult to recognize), determining the extent to which consensus exists about the mission, role, and scope of the institution is essential to the process of assessing whether planning is producing the desired results. (Here *consensus* signifies the ability to retain a common purpose while disagreeing about how to pursue that purpose.)

6. To what extent does the academic program reflect the mission, role, and scope of the institution?

Assuming that there is consensus about the mission, role, and scope of the institution, one should determine to what extent the academic program reflects it. Are the mission, role, and scope discernible in both the breadth and depth of program offerings?

7. How well understood are the educational trends affecting the institution?

No institution is an island unto itself. Planning must take into account changing circumstances beyond the campus, including changes in social legislation (affirmative action, equal opportunity, Title IX, Section 504); demographics, retirement and collective-bargaining laws, social-security laws, energy costs, and state and federal aid to education. Because planning assumptions based on such factors are critical to the success of planning, the assessment should determine how effectively the planning process uses such information.

8. How well do programs respond to the needs of students?

Colleges and universities can be considered complexes of programs (some primary, some support) that fulfill the educational needs of students. Though an oversimplification, this approach can help focus attention on the importance of the responsiveness of programs to student needs. If a planning process does not modify programs in response to student need, it is at best minimally effective and should be reformed.

Survey forms included in *Institutional Functioning Inventory* (Peterson, Centra, Hartnett, and Linn 1970) and *Management Development and Training Program Colleges and Universities* (Higher Education Management Institute 1977) are especially useful in gathering information on these questions. Both publications contain forms that an institution can modify to meet its needs.

The task force should distribute drafts of its assessment widely in the institutional community for critique and review. Reviewers should include the board of control in the many small colleges in which the board has considerable influence on operational matters. Campus forums, open meetings, and other mechanisms should be used to foster broad review. In light of these discussions, the task force should revise the draft and present the report to the institutional community and also to the board at one of its scheduled meetings.

The report should conclude with a specific recommendation, on the order of one of the following:

1. Current planning is effective; desired results are being achieved, and no changes are necessary.

2. Current planning is basically adequate, and only limited revision and coordination are needed; existing systems and institutional offices can undertake such changes.
3. Current planning is inadequate; the institution should implement a different planning process that will involve major institutional commitment.

Many colleges and universities will conclude that the third option best describes their situation.

## Developing a Planning Process: Step 2—Planning Assumptions and a Context for Planning

Many factors influence planning: changes in enrollment and financial aid, faculty-tenure flow, energy costs, social programs, collective bargaining, increased pressures for accountability and cost-effectiveness, social-security and retirement laws, communication technology, self-instructional systems, and the roles of the state and federal governments in institutional matters. Together they constitute a *context for planning.* To develop a planning process to improve decisionmaking, one must begin by identifying and describing the context for planning.

This identification and description should proceed systematically. Like the needs-assessment stage, it should be coordinated by a major executive administrator (president, provost, vice-president for planning) whose involvement will guarantee that the context will be described in terms of the major policy issues of the institution. (If left solely to support or planning staff, the description might easily become an unrelated mixture of technical facts and data.) As with needs assessment, faculty with appropriate expertise should be recruited to produce more accurate, comprehensive, and credible results.

Three projects are necessary to describe the context for planning:

1. Conducting institutional studies—a series of staff and faculty studies to provide information for planning and formulate a set of planning assumptions
2. Developing an Education Plan—a four- or five-year projection of major directions and goals for the institution
3. Writing a description of the planning process to be implemented—an account of the procedures to guide planning activities

Since colleges and universities are organizations preoccupied with process, suggestions about the process of developing these projects might be helpful. As has been noted about the entire planning process, coordination should be the responsibility of a major executive administrator. That responsibility extends to the coordination of these projects. This guarantees each project visibility in the institutional community.

To foster institution-wide acceptance of each activity of step 2, the executive officer responsible for the overall development and implementation of the planning process might appoint a planning-review council. The council should include faculty leaders (senate officers), other faculty, student leaders, administrative officers, staff representatives, and alumni and community representatives. (The last is crucial if the institution is a community college.) An advisory body, the council will review and critique the three principal projects of this step. It should also request and encourage campus-wide discussion of the projects.

The following sequence might be followed for each project:

1. Documents prepared in draft form by faculty and administrative staff with appropriate expertise and interest
2. Draft documents reviewed and critiqued by established offices or groups
3. Revised drafts published and discussed throughout the campus (special forums, written comments, departmental and college meetings)
4. Final critique and review performed by planning-review council
5. Formal documents prepared (for adoption and implementation in some cases)

Such a sequence will increase confidence in the planning process during this critical step. After the planning-review council has been appointed and the sequence announced, the three principal projects that describe the context for planning can begin.

PROJECT 1—CONDUCTING INSTITUTIONAL STUDIES

To describe the context for planning, it is necessary to develop information bases and a set of assumptions informed by actual events and trends, or at least best estimates. Faculty with skills in quantitative analysis, as well as institutional researchers and members of the planning staff, should perform tasks that require such expertise.

At least three areas should be investigated in formulating a set of planning assumptions:

1. Current programs and resources

   This study should examine information about current program offerings, budget, staffing patterns, space and buildings, special facilities, and equipment. It should describe current resource-allocation patterns and the resources available for program development and improvement. An examination of such patterns over several past years would be useful, since consideration of too short an interval might be deceptive.
2. Internal information

   This study should describe the available internal information (often

computer based) that can be used in planning. It is especially important here to avoid jargon and use terms understood by all planning participants. In final form, such information might constitute a catalog for planners that would include information about:

- Enrollment (majors, minors, degrees granted, headcount)
- Enrollment projections (by level and program)
- Student attrition
- Student demography (race, sex, high school, residence, age)
- Student-performance indicators (SAT or ACT scores, rank-in-class, projected GPA)
- Class size (by academic unit and course level)
- Student-faculty ratios (by academic unit and course level)
- Faculty and staff work-load measures (laboratory hours, private music-instruction hours, contact hours, committee assignments, credit hours)
- Curriculum interaction (course consumption and demand, by academic unit)
- Unit costs (by subunit)
- Outcome information (placement, alumni, follow-up data)

Chapter 3 explains how this information can be analyzed by using academic matrices; these reduce the need for independent data sets and time required to prepare such data.

3. External information

Colleges and universities need information about external factors and the changes that affect their operation. Such factors might include revenue expectation, patterns of state aid to students and institutions, social and community priorities, technological development, manpower projections, demographic patterns, personnel policies, and economic trends in the general economy or the region. Information about such factors, embodied in institutional studies, should also project the significant trends that the institution must consider as it formulates plans. Chapter 3 directs institutions to some sources for such information.

PROJECT 2—EDUCATION PLAN

The Education Plan prescribes major institutional directions and goals for the next four to five years. It also provides the criteria for evaluating proposed program plans and resource allocations made in the planning process.

An Education Plan can be developed by formulating a series of statements describing institutional goals from various perspectives within the institution. To encourage innovation, these perspectives should be distinct from that of the organizational structure of the institution. Thus, for example, it would usually prove more advantageous to consider the future

of the institution's role in career education than to project goals for an established unit such as a department or college. Areas for which an institution might want to formulate goal statements are:

- Liberal and fine arts
- Science and technical studies
- Professional and graduate education
- Health and human services
- Lifelong learning
- Career education
- Academic support
- Student services
- Residential life
- Financial aid
- Admissions
- Administrative services and coordination
- Fund raising and development

Outstanding faculty with reputations for fairness and competence should be selected to formulate these statements. (This process for formulating institutional goals may not be feasible for institutions with comprehensive collective-bargaining agreements.) Faculty will prepare drafts for review by the planning-review council. Based on that review, they will then write second drafts that will be distributed throughout the campus and discussed at forums. (This distribution and discussion are crucial, since the credibility of the planning process depends, in part, on broad institutional participation in formulating goals.) These drafts are again reviewed and critiqued by the planning-review council. Its recommendations, together with the drafts themselves, next assist the executive administrator responsible for planning (or the president, if a person other than the president has this responsibility) in preparing a description of major institutional goals. After approval by the board of control, this description will become the Education Plan. The planning process will translate these statements of goals into annual program objectives.

PROJECT 3—PLANNING-PROCESS DESCRIPTION

Since a centralized planning process will alter established procedures, it may disturb some institutional personnel. To facilitate its acceptance, a summary of it should be circulated for review throughout the institution. The summary should include the major principles on which the planning process is based. While not exhaustive, the following list, drawn from the experiences of the authors and the resource institutions, seems basic:

1. Incorporation of the Education Plan as the criterion for critiquing program and budget proposals: *the final standard for decisions is the Education Plan.*

2. Provision of individual planning units (departments, colleges, schools, and other administrative units) with estimates of enrollment, faculty and staff positions, and budget: this will ensure that specific program and budget plans are held within the limits of projected resources.
3. Designation and description of funds to cover institution-wide needs (such as compensation, legislatively mandated expenses, utilities): these funds should be designated and described, before the process begins, to acknowledge that only discretionary funds are available for new programs and that these funds are limited. (Such designation shows that some resource commitments are dictated by external conditions and cannot be changed in the planning process.)
4. Designation of funds for program development so that individual planning units can develop plans to fulfill the Education Plan, instead of merely maintaining current programs: of those funds that are indeed discretionary, a certain portion should be designated *in advance of the planning activity* as program-development funds. (This will guarantee the planners that some funds will be available for innovation.)
5. Institution of a process that develops detailed plans for the upcoming year but requires less detailed projections for an additional two years: this will ensure that planning does not become simply a crisis-response system.
6. Inclusion of a reporting loop in the process: the organizational and institutional reviewing units should periodically report back to the planning units on their requests and the status of the Education Plan.
7. Designation of the participants at each stage of the process; the expected intervals within which planning should occur; the particular decision points within the process; and procedures for review, decisionmaking, and evaluation of the effectiveness of the process: a visible, well-articulated process is most likely to win campus-wide acceptance.

### Developing a Planning Process: Step 3—Implementation and Operation

Implementation can now begin. *Academic Planning: Four Institutional Case Studies* (Kieft 1978) explains how planning can be made to function more smoothly by using certain tools that reduce the redundancy inherent in most reporting and evaluation systems. Chapter 4 of this *Handbook* describes some tools developed out of the experiences of the authors, the resource institutions that participated in the development of the *Handbook*,

*Academic Planning,* and from related research. These tools imply a five-fold classification of program proposals: program initiation, maintenance, improvement, reduction, or deletion. Such a scheme facilitates priority decisions that take into account tradeoffs among the various alternatives. Since most institutions reallocate resources as their primary way of responding to planning decisions, a characterization of planning proposals that distinguishes between maintenance, improvement, and new programs helps to better focus the issues involved in resource reallocation. It will also facilitate the review and critique of planning proposals.

The classifications of program proposals should also list resources (funds for faculty or staff, funds for supplies, materials, contracted service, space, renovation, equipment) necessary for implementing each proposal. This listing is the first step in linking program planning with resource allocation and budget development. In addition, the way in which the program proposal will contribute to the Education Plan should be explained, so that reviewers and decisionmakers can assess the long- as well as the short-range impact on resources and programs of any particular proposal.

PARTICIPATION

Broad participation is as necessary in the planning process itself as in the needs assessment. Because of the traditions of faculty governance, planning should begin within the faculty. Throughout the institution, established units should submit program and budget proposals. Wherever there are common interests, whether from established structures such as academic departments, colleges, or schools or from self-constituted interest groups, there should be the opportunity to propose plans and request support. Participation enhances the prospects for successful programs, since it ensures that they will be implemented by those who have designed and proposed them.

The review of planning proposals, however, necessitates limiting participation. The review should follow the governing procedures of the institution. That is, the first level of review should be performed within the unit in which the proposal originates. In most cases, this will be an academic department or administrative support unit. Because of their size, some units may choose to assign proposal review to individuals or a committee; in smaller units, everyone will be able to participate. The larger organizational units (division, school, college, administrative divisions) will find it more difficult to reach decisions without limiting the number of individuals directly participating. However, such limitation is usually defined by the governance structure, and so no special structure is needed.

The larger organizational unit makes decisions on requests and establishes priorities for the larger organizational unit as a whole. Proposals that

emerge from this level of organizational review should represent more than a collection of constituent-unit proposals. This determination of priority reflects judgment about the potential value of the resources requested for the organizational unit as well as for the entire institution.

The form of institutional governance will also determine the participants in the final review of program and budget proposals. Often, this review is performed by certain administrators, faculty, and student leaders. It should be related to the comprehensive institutional program as described in the Education Plan, since it requires decisions about allocations of limited resources among competing needs and the establishment of priorities that will determine the pattern of future resource allocations. It also requires integrating the various aspects of planning, including programs that deal with instruction, academic support, student services, administrative support, physical plant and facilities, development, financial aid, and auxiliary services.

As noted, the review process itself can be structured according to the governing procedures of the institution, which often provide for the establishment of unit-wide review committees. In that case, an organizational unit can establish its planning-review process by creating a program planning committee according to accepted procedures. The committee should review and critique all program and budget proposals forwarded by constituent units. This review and critique should include (1) assessment of each proposal according to the Education Plan and the institutional studies developed when the context for planning was described; (2) decisions about the relative priority of each proposal, and (3) submission to each constituent unit of a statement explaining the committee's action on each proposal. The committee should submit to the organizational unit a *written report* that will be reviewed and acted upon by the organizational unit's governing structure. The office of the administrator (director, dean, vice-president) responsible for the organizational unit should administer this review and provide the committee with support staff and services.

The final review of organizational-unit proposals can be performed through an institution-wide advisory council, composed of faculty, students, and staff, which has been specifically charged with recommending priority actions to the office of the president through the institution's program plan, or through a council of executive administrators from each major division (academic, student affairs, business and finance, development, administration and support). Both councils should also include the coordinator or planning officer charged with the daily supervision of planning. Whichever council is chosen, it should be chaired by the executive administrator responsible for planning. The responsibilities of either body are similar to those of the program planning committee of each organizational unit, except that the decisions made affect the entire institution.

These decisions are, of course, subject to the review of the governing authorities of the institution, including the board of control.

As noted, a planning officer will be needed to coordinate the planning continuously. This person should be administratively housed in the office of the executive administrator responsible for planning. The office should include staff for the institutional research and analysis necessary to support the planning process. Such staff will develop information bases, analyze policy issues, and assist in planning. Rather than creating a series of new staff positions, it is usually better to develop new roles for existing staff. Faculty who are interested and possess relevant skills can often help fill these roles through differentiated staffing and brief leaves from instructional duties. Since the new planning process will replace many disjointed resource-allocation and budgeting functions, reassignment of staff may be relatively easy.

CHAPTER 3

# Planning Assumptions And a Context for Planning

This chapter explains how to delineate a context for planning by completing three groups of projects. The projects should be completed before planning is begun.

## Conducting Institutional Studies

Information bases and assumptions describing actual events and trends, or at least best estimates, are needed to inform planning decisions. Institution-wide information studies should be undertaken first. These can be divided into three categories:

- Studies of current programs and resources
- Studies of internal information
- Studies of external information

### STUDIES OF CURRENT PROGRAMS AND RESOURCES

To chart future activities and provide budget resources to sustain them, a knowledge of current program commitments and the availability of resources to support program development is required, as well as a historical perspective on program determination and patterns of resource allocation.

A careful inventory of institutional programs and the resources supporting them should be made. Whenever possible, the inventory should be specific for each individual planning unit (academic department,



40

administrative and support unit), since each unit will develop program proposals. *The amount of detail in the inventory should be consistent with the actual way in which programs and resources are classified by the institution.* A different or more detailed program classification structure should not be used. (If a different program classification structure is to be implemented as part of the planning process, one should consult the NCHEMS *Program Classification Structure,* 2nd ed. [Collier 1978].) The following hypothetical example illustrates how an inventory of programs and resources is developed.

The basic academic department concerned with the chemical sciences is the Department of Chemistry (DOC); that is, there are no separate departments, subdepartments, or defined program units in the chemistry discipline (no biochemistry or organic chemistry department or unit). All chemistry-related activities (instruction, research, public service) are administratively centered in the DOC. Thus the inventory should show the DOC as the sole unit appropriately organized for all planning related to chemistry programs.

Program activity should be inventoried according to the internal characteristics of the DOC; that is, if the DOC organizes its programs according to an internal pattern, that pattern should be described as clearly as possible. The purpose of the inventory is to describe the *actual* program activities of the DOC as accurately as possible. It must not be simply an exercise in reporting. Thus if the DOC is able to identify its specific program activities together with the resources associated with each activity, these activities and resources should be so displayed in the inventory. Similarly, the inventory should describe the current distribution of resources in support of program activities. These resources might include: funds for supplies, materials, and contractual services; faculty and support staff; teaching-assistant support; equipment; space; student-assistance funds; and grant or specially designated funds. *Where possible, these resources should be linked to particular program activities.* This should not be a costing exercise (that is, a precise analysis of all costs related to a program) but only a description of resources devoted to program activity.

Figure 2 suggests a format for the inventory. The inventory establishes a common information base across the institution. Inventories for several years past provide information about program direction and resource allocation that can help answer some inevitable questions:

- Which programs did or did not receive what resources?
- When did that occur?
- Has department X been "privileged" in terms of budget support?

By helping answer such questions and by furnishing an accepted and understood information base for programs and resources, the inventory helps establish a context for planning.

FIGURE 2

PLANNING FORM I
INVENTORY OF PROGRAMS AND RESOURCES

Inventory for Year: 1978-79
Planning Unit: Chemistry Department

| PROGRAM ACTIVITY | RESOURCES | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Faculty FTE | Staff FTE (Type) | Budget (General Operating) | Teaching-Assistant FTE | Student-Assistance Funds | Equipment | Space Utilized | Grant or Specially Designated Funds |
| Administration of the Department | 0.25 | 0.50 (Clerical) | | | | Equipment assigned to department | Office C-52 | |
| General Chemistry | 1.50 | | Departmental general operating budget of $22,000 | No teaching assistant available | $1,000 | Specific items of equipment not assignable to programs | C-53 C-54 | |
| Organic Chemistry | 0.50 | 0.25 (Lab technician) | | | 2,000 | | C-55 C-57 C-59 | |
| Inorganic Chemistry | 0.75 | 0.25 (Lab technician) | Specific portions not assignable to programs | | 1,000 | 4 Typewriters 15 Balances 10 Microscopes | C-53 C-54 C-55 | |
| Cancer Research | 0.25 | | | | 500 | Assorted laboratory equipment (Student-fee supported) | C-12 | $15,000 (American Cancer Society Grant) |
| Total | 3.25 FTE | 1.00 FTE | $22,000 | 0.00 FTE | $4,500 | | | $15,000 |

STUDIES OF INTERNAL INFORMATION

The inventory can also help develop a series of studies that provide internal information for use in preparing a set of planning assumptions. Though the types of internal information required to articulate a set of planning assumptions and adequately establish a context for planning will vary from institution to institution, they will likely include information about:

- Enrollment (majors, minors, degrees granted, headcount)
- Enrollment projections (by level and program)
- Student attrition
- Student demography (race, sex, residence, age)
- Student-performance indicators (SAT or ACT scores, predicted GPA, rank in class)
- Mix of students (part- vs. full-time, headcount vs. FTE, night vs. day, commuter vs. resident)
- Class size (by academic unit and course level
- Student-faculty ratios (by academic unit and course level)
- Faculty and staff work-load measures (laboratory hours, private music-instruction hours, contact hours, committee assignments, credit hours)
- Curriculum interaction (consumption and demand of courses by academic unit)
- Credit-hour production (by academic unit and course level)
- Unit costs (by subunit)
- Outcomes (placement, alumni, follow-up information)

*Academic Matrix or the Induced Course Load Matrix (ICLM)*

Many college and university administrators are overwhelmed by data emanating from within (the office of the registrar, admissions, housing, business, student affairs, or academic affairs) or from without (federal and state legislation on affirmative action, Title IX, financial-aid disclosure, and Section 504). Unfortunately, these data usually have been translated into only a minimal amount of *information*—that is, data that have been interrelated, analyzed, and interpreted so that they are visibly relevant to institutional decisionmaking.

The internal information studies that help describe a context for planning should provide information relevant to academic and program planning. Institutions can obtain and interpret much of this information through an academic matrix such as the Induced Course Load Matrix (ICLM), conceived, developed, and first used by Sidney Suslow in the late 1950s at the University of California. Since then, the ICLM has been widely used in higher-education administration and planning. In its various forms, an academic matrix can provide information about *student credit hours, curriculum interaction, work load, enrollment projections and patterns*

FIGURE 3

ACADEMIC MATRIX

| | Curriculum or student structure |
|---|---|
| Academic organizational structure | Measure of instructional interaction |

(by program, student level, and discipline), *unit and program costs, manpower needs,* and *space requirements.* Figure 3 illustrates an academic matrix in its most general form. The matrix relates the curriculum or student structure of an institution to the academic organizational structure through measures of instructional interaction. For example, the matrix becomes specific if the curriculum or student structure chosen is *major programs* (botany, statistics, European history), the academic organizational structure chosen is *academic departments* or *disciplines* (biology, mathematics, history), and the measure of instructional interaction is *average credit hours.* In this form, the academic matrix provides information about the average number of credit hours taken in academic departments by various student majors.

FIGURE 4

INDUCED COURSE LOAD MATRIX

| | | PROGRAMS OR STUDENT MAJORS | | | |
|---|---|---|---|---|---|
| | | Botany | Statistics | European History | Undecided |
| DEPARTMENTS OR DISCIPLINES | Biology | 6.1 | 3.0 | 1.0 | 2.0 |
| | Mathematics | 4.3 | 5.3 | 1.0 | 4.0 |
| | History | 2.6 | 1.7 | 4.8 | 1.0 |
| | English | 3.0 | 1.0 | 6.0 | 4.0 |

This form of the matrix, illustrated in figure 4, is the most common. The hypothetical numerical values in the body of the table are the *average* credits taken by student majors in each department. For example, the first row shows that botany majors take an average of 6.1 credits of biology, statistics majors 3.0, European history majors 1.0, and undecided majors 2.0.

The columns of an ICLM indicate the extent to which an individual program or student major impacts various other academic departments or disciplines. For example, the first column in figure 4 shows that the *average* botany major takes 6.1 credits of biology, 4.3 of mathematics, 2.6 of history, and 3.0 of English. Hence the columns of the matrix enable the user to determine the *average* impact that changes in a particular program or major will have on enrollment in an academic department or discipline.

The academic matrix can also take other forms, by defining its components in alternative ways. Some examples:

Curriculum or student structure

- Student level (lower division, upper division, graduate)
- Demographic group (sex, resident or nonresident, ethnic group)
- Ability group (ACT or SAT scores, GPA)

Academic organizational structure

- Institution or campus
- Division, school, or college
- Course level
- Course type

Instructional interaction

- Student-contact hours
- Continuing-education units
- Course units
- Headcount enrollment

FIGURE 5

INDUCED WORK LOAD MATRIX

| | | PROGRAMS OR STUDENT MAJORS | | | | |
|---|---|---|---|---|---|---|
| | | Botany | Statistics | European History | Undecided | Total |
| DEPARTMENTS OR DISCIPLINES | Biology | 610 | 150 | 75 | 450 | 1,285 |
| | Mathematics | 430 | 426 | 58 | 996 | 1,910 |
| | History | 260 | 54 | 312 | 249 | 875 |
| | English | 300 | 50 | 450 | 950 | 1,750 |

*Induced Work Load Matrix*

The Induced Work Load Matrix (IWLM), illustrated in figure 5, is closely related to the ICLM. The rows and columns of the IWLM are labeled like those of the ICLM. But the hypothetical numerical values in the table give the *total* number of credits taken by majors in each discipline or department (as contrasted to the *average* values shown in the ICLM).

*Uses of the ICLM and IWLM*

The ICLM and IWLM can be used to project enrollment, measure departmental work load, and compute program costs. By using the ICLM to estimate enrollment changes in a program, one can calculate the impact on a department's enrollment. By summing the appropriate row of the matrix, a projection of the department's enrollment results. For example, if, over time, botany majors have taken 5.0 credits of mathematics and if it is predicted that there will be 50 botany majors next fall, then as a group, they can be expected to take 250 credits of mathematics ($5.0 \times 50 = 250$). (Kieft [1978] provides a more detailed discussion of this use of the ICLM.)

If data are available for several years, either the ICLM or the IWLM can help analyze historical and current enrollment patterns. As noted, both an ICLM and an IWLM show the curriculum interaction between students in major programs (consumers of credit hours) and departments or disciplines (producers of credit hours). If credit hours produced are recognized as a legitimate work-load measure, then the IWLM can also be used as a measure of departmental work load. That is, the total number of credit hours produced by a department is readily obtained by summing across the matrix.

Using the ICLM, one can also compute direct departmental and program unit costs. Figure 6 illustrates the former use. Figure 7 illustrates how direct unit costs can be used to calculate direct program costs. Each cell in figure 7 contains two hypothetical values—one for credit hours, taken from the IWLM, the other for direct unit costs—derived from the direct unit-cost calculation in figure 6. To compute the total cost of each program, multiply the values in each cell and then add them by column. For example, the total cost of the philosophy major, lower level, can be calculated in this manner:

$$(800 \times 20) + (90 \times 30) + (200 \times 10) + (50 \times 20) + (1{,}000 \times 40) = \$61{,}700$$

The average cost per program credit can then be calculated by determining the quotient of the *total program costs* and *total credit hours taken by all students in each program.* For the philosophy major, lower level, the result would be \$61,700 ÷ 2,140, or \$28.83. Readers interested in additional uses of the academic matrix, including academic manpower and space-requirement studies, should consult Suslow (1977).

FIGURE 6

DIRECT UNIT COSTS FOR DEPARTMENTS OR DISCIPLINES

| DIRECT COSTS (From Financial-Data Source) | |
|---|---|
| Sociology, lower division | $20,000 |
| Sociology, upper division | 30,000 |
| Political science, lower division | 20,000 |
| Political science, upper division | 10,000 |

÷

| TOTAL CREDITS (From IWLM) | |
|---|---|
| Sociology, lower division | 1000 |
| Sociology, upper division | 1000 |
| Political science, lower division | 2000 |
| Political science, upper division | 500 |

=

| DIRECT UNIT COSTS (Cost per Credit) | |
|---|---|
| Sociology, lower division | $20 |
| Sociology, upper division | 30 |
| Political science, lower division | 10 |
| Political science, upper division | 20 |

FIGURE 7

DIRECT PROGRAM COSTS

| DEPARTMENT OR DISCIPLINE | PROGRAM OR MAJOR: Philosophy major lower level | Philosophy major upper level | Psychology major lower level | Psychology major upper level | Total Program Costs | Total Credit Hours Taken by All Students in Each Program | Average Cost per Program Credit (Rounded) |
|---|---|---|---|---|---|---|---|
| Sociology lower division | 800 × $20 | 50 × $20 | 100 × $20 | 50 × $20 | $22,200 | 2460 | $ 9 |
| Sociology upper division | 90 × $30 | 900 × $30 | 0 × $30 | 0 × $30 | $70,000 | 2740 | $26 |
| Political Science lower division | 200 × $10 | 10 × $10 | 1700 × $10 | 9 × $10 | $88,100 | 2460 | $36 |
| Political Science upper division | 50 × $20 | 0 × $20 | 50 × $20 | 400 × $20 | $61,700 | 2140 | $29 |
| Average of all other disciplines contributing to philosophy and psychology programs | 1000 × $40 | 1500 × $40 | 2500 × $20 | 300 × $40 | | (From IWLM) | |

*Source-Use Matrix*

Institutional accounting statements normally include a balance sheet, a statement of changes in fund balances, and a statement of current-fund revenues, expenditures, and other changes. These form the basis for financial information generated and used in planning. In addition, many institutions prepare supplementary financial statements for auxiliary enterprises or debt service. Planners can use a source-use matrix to help describe the financial situation of an institution. As figure 8 illustrates, the matrix shows the intersection of sources of revenue and uses of funds.

FIGURE 8

SOURCE-USE MATRIX

| | SOURCE 1 | SOURCE 2 | SOURCE 3 | • • • |
|---|---|---|---|---|
| USE 1 | $12,467 | $18,116 | $ 7,613 | |
| USE 2 | 8,433 | 26,134 | 31,009 | |
| USE 3 | 4,018 | 9,008 | 7,176 | |
| • • • | | | | |

Funds from source 2 finance use 3.

The matrix can be used to display the institution's financial operation in its entirety or to analyze specific portions. The most commonly used expenditure categories are those for functions or programs (instruction, research, public service); organizational units (Business Office, Admissions Office, Department of English, School of Engineering); and objects (salaries, travel, equipment). The most commonly used source categories are tuition and fees, grants and gifts, and state appropriations. The matrix can also be used to indicate the nature of the source (restricted, designated, unrestricted) or the category used in providing the funds (budgeted, unallocated). For more information about the source-use matrix, see Collier (1975, pp. 117, 139).

*Student Demography*

Demographic data about students, formatted in relationship to programs, can assist planning. The hypothetical example in figure 9 shows how the demographic variable *sex* might be formatted to facilitate comparisons across programs.

FIGURE 9

STUDENTS MAJORS BY SEX–1978

| PROGRAM | M | F | TOTAL |
|---|---|---|---|
| Botany | 25 | 30 | 55 |
| Statistics | 10 | 5 | 15 |
| European History | 26 | 31 | 57 |
| ⋮ | | | |
| Undecided | 31 | 20 | 51 |

Other variables that might be similarly formatted include:

- Race
- Residence (predetermined categories necessary)
- Age (predetermined categories necessary)
- SAT or ACT scores (predetermined categories necessary)
- Rank in class

It may also be useful to examine variables over time, as in figure 10.

FIGURE 10

BOTANY MAJORS BY SEX–1974-78

| YEAR / SEX | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|---|---|---|---|---|
| M | 17 | 21 | 20 | 28 | 25 |
| F | 12 | 11 | 12 | 24 | 30 |

*Mix of Students*

An institution's mix of students can profoundly affect its programs. For example, part-time students often demand a disproportionate amount of advising, counseling, and registration services. Dormitory and nonresident

students require different class scheduling, and upper- and lower-division students different curricular arrangements. Thus a context for planning should specify the relationship between mix of students and programs. Such relationships can be described according to the format in figure 11.

FIGURE 11

PART-TIME AND FULL-TIME MAJORS—1978

| PROGRAM | FULL TIME | PART TIME |
|---|---|---|
| Botany | 45 | 10 |
| Statistics | 13 | 2 |
| European History | 32 | 25 |
| ⋮ | | |
| Undecided | 43 | 8 |

Other student-mix variables that can be similarly analyzed include:

- Headcount vs. FTE students (FTE would usually be defined in terms of credit hours taken)
- Night vs. day students
- Commuter vs. dormitory students

The format for analyzing student-mix variables over time (figure 12) is similar to that used for demographic variables.

FIGURE 12

PART-TIME AND FULL-TIME EUROPEAN-HISTORY MAJORS—1974-78

| YEAR / TYPE | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|---|---|---|---|---|
| Full time | 20 | 23 | 21 | 30 | 32 |
| Part time | 15 | 15 | 20 | 19 | 25 |

*Class Size*

Class size is often taken as one measure of work load or academic productivity. For planning purposes, information about class size can be useful in determining trends over time and can help assess impact on departmental (or subdepartmental) units. It also is helpful in relating the mix-of-student information and student demographic data to changing class size through the common vehicle of academic organizational unit. Usually, class-size data formatted by department and by type of class prove most useful. An example, using three levels of classes, is given in figure 13. This format facilitates comparisons between departments. An institution may want to compare class sizes across several schools or colleges; this can be done by formatting as in figure 13, but replacing the department column with a school/college column. It is also useful to analyze class size over time, as in figure 14.

FIGURE 13

AVERAGE CLASS SIZE–1978

| DEPARTMENT | UPPER DIVISION | LOWER DIVISION | GRADUATE |
|---|---|---|---|
| Accounting | 40 | 25 | 17 |
| Music | 25 | 20 | 15 |
| Speech | 32 | 28 | 12 |
| ⋮ | | | |

FIGURE 14

ACCOUNTING-DEPARTMENT AVERAGE CLASS SIZE–1974-78

| YEAR / CLASS | 1974 | 1975 | 1976 | 1977 | 1978 |
|---|---|---|---|---|---|
| Lower division | 35 | 37 | 38 | 41 | 40 |
| Upper division | 25 | 24 | 27 | 20 | 25 |
| Graduate | 12 | 10 | 9 | 12 | 17 |

*Attrition Studies*

Attrition studies, which have become increasingly important for planning, can be used to:

- Provide information about dropouts that may point to corrective action
- Document the numbers and percentage of students who leave the institution
- Build models to predict how many and which students will either drop out temporarily or leave the institution permanently

Materials and procedures for conducting an attrition study can be found in *A Manual for Conducting Student Attrition Studies in Institutions of Postsecondary Education* (Bower and Myers 1976). This NCHEMS publication includes:

- Procedures for identifying dropouts
- Sampling considerations unique to an attrition study
- Guidelines for mailing the survey, sending a follow-up mailing to nonresponders, and tracking returned questionnaires
- Suggestions for data processing, hand coding, and analysis
- Sample questionnaires and cover and follow-up letters

*Outcomes Studies*

Colleges and universities are under increased pressure to demonstrate the worth of their activities and the efficiency of their operations. Moreover, because of shrinking financial support and shifting demands for educational services, they themselves require more information about the outcomes of the programs and services.

STUDIES OF EXTERNAL INFORMATION

Each institution can best determine which external factors affect it most directly. Some of these might include:

- Local, state, or national trends in financing postsecondary education
- Student characteristics for the next 5 to 10 years
- Enrollment trends
- Employment and career opportunities
- Major educational patterns
- Labor trends
- Social priorities
- Physical environment

*Existing Statistics*

A common obstacle to the development of external information is lack of knowledge of what statistics are available and how they can be obtained. The National Center for Education Statistics (NCES) publishes comprehensive educational statistics and guides to data collected by the Bureau of the Census and the Bureau of Labor Statistics. These publications also

suggest how to use such data for state and regional studies. The NCES *Community Information in Education* (forthcoming) will provide assistance in beginning an analysis of existing statistics and obtaining and using census data. This publication will include a guide to existing literature dealing with population, planning and the economy, and social structure and dynamics.

Another excellent source of external information is the Educational Resources Information Center (ERIC), a nationwide system of 16 clearinghouses that collect abstracts and distribute educational information. The documents that it collects are published in microfiche by a central ERIC Clearinghouse in Washington, D.C., and listed in a monthly catalog, *Research in Education.* Many county and state departments of education as well as colleges and universities have ERIC collections and catalogs.

CHAPTER 4

# Implementation and Operation

## Planning Cycle

The planning cycle comprises a three-year period. Every year, detailed plans are formulated for the year *immediately* ahead and less detailed, but nevertheless substantive, plans for *the subsequent two years.* As the cycle advances, the second year, for which less detailed plans had previously been formulated, will become the year immediately ahead and thus will receive detailed attention. Also at this point, the less detailed plans that were originally formulated for the third year in the cycle may require revision, but detailed planning for that year should be postponed until it becomes the year immediately ahead. Finally, a new third year will be added to the planning period, receiving less detailed attention.

The operation of the cycle is illustrated in figure 15: when plans are formulated during 1978-79, the years 1979-80 will receive more detailed attention and the years 1980-81 and 1981-82 less detailed attention. Then as plans are formulated during 1979-80, the year 1980-81 will receive more detailed attention; the years 1981-82 and 1982-83 less detailed attention.

Every fourth year, in addition to the annual formulation of plans, the Education Plan and its supporting set of assumptions should be revised.

FIGURE 15

PLANNING CYCLE

**1978-79**

- Education Plan and supporting set of assumptions are formulated
- Individual planning units prepare plans that contain:
  1. Detailed proposals for 1979-80
  2. Less detailed, but yet substantive, proposals for 1980-81 and 1981-82

**1979-80**

- Individual planning units:
  1. Revise in more detail proposals for 1980-81, which is now the year immediately ahead
  2. Revise the less detailed proposals for 1981-82
  3. Add 1982-83 as the third year ahead and formulate less detailed, but yet substantive, proposals for this year

**1980-81**

- Individual planning units:
  1. Revise in more detail proposals for 1981-82, which is now the year immediately ahead
  2. Revise the less detailed proposals for 1982-83
  3. Add 1983-84 as the third year ahead and formulate less detailed, but yet substantive, proposals for this year

**1981-82**

- Individual planning units:
  1. Revise in more detail proposals for 1982-83, which is now the year immediately ahead
  2. Revise the less detailed proposals for 1983-84
  3. Add 1984-85 as the third year ahead and formulate less detailed, but yet substantive, proposals for this year

**1982-83**

- Education Plan and supporting set of assumptions are revised
- Individual planning units:
  1. Revise in more detail proposals for 1983-84, which is now the year immediately ahead
  2. Revise the less detailed proposals for 1984-85
  3. Add 1985-86 as the third year ahead and formulate less detailed, but yet substantive, proposals for this year

FIGURE 16

ANNUAL PLANNING CALENDAR

| MONTH 1 | MONTH 2 - MONTH 4 | MONTH 5 - MONTH 7 | MONTH 8 - MONTH 10 | MONTH 11 - MONTH 12 |
|---|---|---|---|---|
| **Information for Planning** | **Preparation of Program Plans by Individual Planning Units** | **Review and Critique of Individual Program Plans and Preparation of Organizational-Unit Program Plan** | **Review and Critique of Organizational-Unit Program Plans and Preparation of Institution's Program Plan by Institution-wide Group** | **Review and Approval of Institution's Program Plan and Implementation of Planning Decisions** |
| 1. Enrollment projections (4-10 years)<br>2. Faculty-FTE projections (4-10 years)<br>3. Staff-FTE projections (4-10 years)<br>4. Cost and revenue projections (1-4 years) | 1. Planning unit appoints committee<br>2. Program plan developed<br>a. Program objectives<br>b. Planned activities<br>c. Resources required<br>3. Planning Form II<br>4. Planning Form III | 1. Organizational unit appoints committee<br>2. Review and critique of planning units' program plans<br>3. Planning Form IV<br>4. Program plan developed<br>5. Planning Form V<br>6. Planning Form VI<br>7. Report of planning decisions sent to individual planning units | 1. Institution-wide group formed<br>2. Review and critique of organizational units' program plans<br>3. Institution's program plan developed<br>4. Report of planning decisions sent to organizational units and to senate, president, and board of control | 1. Review of institution's program plan by senate, president, and board of control<br>2. Approval and adoption of institution's program plan<br>3. Implementation of planning decisions:<br>• Curricular review<br>• Faculty recruitment<br>• Staff recruitment<br>• Personnel action<br>• Policy action<br>• Budget description<br>• Equipment orders<br>• Renovation orders<br>• Supplies orders |

## Annual Planning Calendar

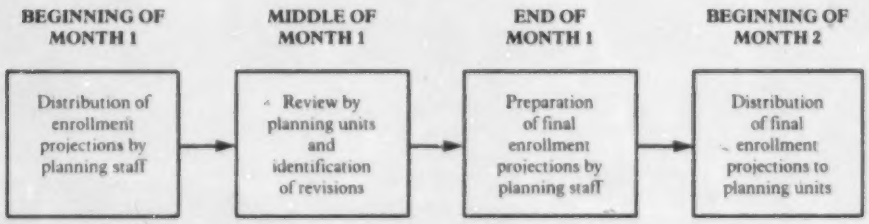
The annual planning calendar described here is a model that each institution should modify to meet its own needs. It covers 12 months of activities (see figure 16). However, the necessary activities that require faculty involvement can be scheduled within the span of a nine-month academic year.

### Month 1—Information for Planning

#### ENROLLMENT PROJECTIONS

Enrollment projections were discussed in chapter 3. They must be reviewed annually and corrected by the experience of the previous year. While the interval they cover can vary, a minimum of four to five years is suggested. Moreover, while detailed projections for at least three years are necessary, longer-range projections can help inform decisions about physical plant, labor contracts, personnel requirements, and even revenue, since, through either tuition or per-student appropriations, enrollment largely determines institutional revenue.

During month 1, the planning staff distributes its enrollment projections to the individual planning units, which study them and identify any factors affecting enrollment not reflected in the projections. The planning staff uses the comments of the individual planning units in revising the projections and distributes final enrollment projections to all planning units at the beginning of month 2.


BEGINNING OF MONTH 1
Distribution of enrollment projections by planning staff
MIDDLE OF MONTH 1
Review by planning units and identification of revisions
END OF MONTH 1
Preparation of final enrollment projections by planning staff
BEGINNING OF MONTH 2
Distribution of final enrollment projections to planning units

#### FACULTY-FTE PROJECTIONS

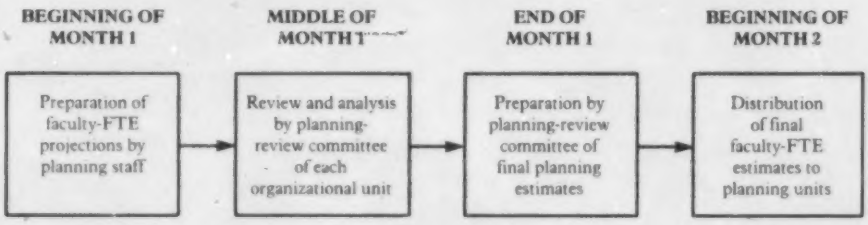
Since academic programs must be planned and prepared far in advance of actual determinations of revenue, it is necessary to estimate total faculty-position requirements and distribute the estimate to planning units. However, the estimate should not represent actual allocations of faculty positions, which should be made in response to programs proposed and decisions about priorities made during the planning process.

Like enrollment projections, estimates of faculty positions should be reviewed and corrected annually. An institutional ratio of faculty to students will usually vary only slightly during any planning period. But ratios can vary significantly from one department or division to another because of the reallocation of positions in response to planning decisions. Since tenure commitments, AAUP statements, and collective-bargaining

contracts require minimum notice of termination, such staffing changes must be anticipated well in advance of actual position allocations. Staffing patterns should be described precisely for two or three years in advance and projected tentatively for a longer interval.

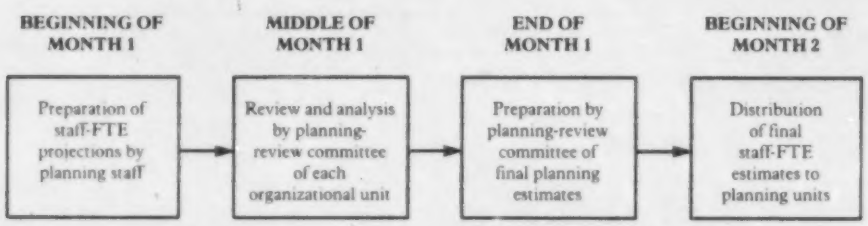
The planning staff uses enrollment projections and its knowledge of the pedagogy of each discipline to make tentative faculty-FTE projections. (For a study of defining tentative faculty positions in light of pedagogy, see Kieft [1975b].) These are then analyzed by the appropriate planning-review committees in light of the context for planning, assessments of essential program needs, and the need for specialized instructional competencies. Each planning-review committee is free to alter the faculty-FTE estimates unit by unit, *as long as the total estimate for the organizational unit is not changed.* Since the institutional total should not vary, any increase in faculty FTE for one unit would require a decrease for another.

After making its review and revising the initial faculty-FTE estimates, the planning-review committee lists faculty positions, by planning unit, for each year of the three-year planning period (and for a longer interval when necessary). This list is also distributed to the planning units at the beginning of month 2, for use in developing proposals.


BEGINNING OF MONTH 1
MIDDLE OF MONTH 1
END OF MONTH 1
BEGINNING OF MONTH 2
Preparation of faculty-FTE projections by planning staff
Review and analysis by planning-review committee of each organizational unit
Preparation by planning-review committee of final planning estimates
Distribution of final faculty-FTE estimates to planning units

STAFF-FTE PROJECTIONS

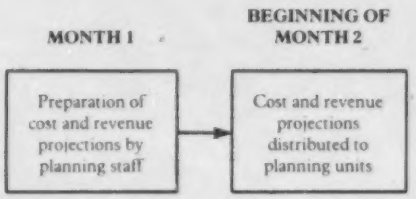
The process of preparation, review, and distribution of planning estimates for staff FTE in administrative and support units is similar to that used for estimating faculty FTE.


BEGINNING OF MONTH 1
MIDDLE OF MONTH 1
END OF MONTH 1
BEGINNING OF MONTH 2
Preparation of staff-FTE projections by planning staff
Review and analysis by planning-review committee of each organizational unit
Preparation by planning-review committee of final planning estimates
Distribution of final staff-FTE estimates to planning units

COST AND REVENUE PROJECTIONS

Cost and revenue information is another component of the context for planning. Like other information provided to individual planning units, it should be revised annually by the planning staff. Information about funds for operational activities and program enhancement not related to personnel

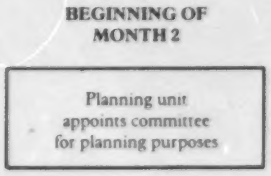
costs should be distributed to individual planning units at the beginning of month 2. Planning units will then know whether proposed program changes will require funds not budgeted. For example, as planning units prepare proposals and request resources for program enhancement, they need to know whether lowered enrollment expectations will reduce funds for costs not related to personnel (equipment, renovation, printed materials). *Realistic planning requires knowledge of the present level of program activity and funds available for future programs.*


MONTH 1
BEGINNING OF MONTH 2
Preparation of cost and revenue projections by planning staff
Cost and revenue projections distributed to planning units

## Month 2-Month 4—Preparation of Program Plans By Individual Planning Units

### PLANNING-UNIT COMMITTEE

The individual planning unit is the most critical element in the planning process. During months 2, 3, and 4, individual planning units prepare their detailed proposals for the year immediately ahead and less detailed proposals for the following two years. To help prepare these, each planning unit appoints a representative committee for planning and designates a chairperson. (If the unit is small, the entire unit might constitute the committee.) The committee should initiate, develop, review, and recommend a program plan for the planning unit for the next three years and act as the liaison between its planning unit and all others.




### PLANNING-UNIT PROGRAM PLAN

After the planning unit has received its planning information (enrollment projections, faculty- and staff-FTE estimates, and cost and revenue projections) and appointed its committee for planning purposes, the unit must prepare its program plan. The plan should stipulate:

1. A set of program objectives for each year of the cycle
2. A priority ranking of the program objectives for the year immediately ahead

3. Activities planned to accomplish objectives
4. Resources to implement and sustain the activities

*Program Objectives*

A *program objective* is a desired result that follows from a set of activities. It should be clear and comprehensible, measurable or verifiable, and accomplishable within a specified time. Because it is a *desired* result, a program objective should be related to an institutional goal. The statement of the objective should indicate criteria for its evaluation and indicate the resources required for attaining it. Consider this hypothetical statement of an art department that proposes an undergraduate emphasis in art history:

**PROGRAM OBJECTIVE:**
**Undergraduate Emphasis in Art History**

A one-year program in art history for undergraduates will be developed.

This objective reflects the institution's stated goals of increasing the cultural awareness of undergraduates and providing a general education in the arts.

This objective will be evaluated according to enrollment criteria. Enrollment of 25 or more students in each course will indicate success.

This objective will require resources beyond those included in previous planning estimates.

*Planned Activities*

*Planned activities* are the means for accomplishing a program objective. Those for accomplishing an undergraduate emphasis in art history might be described in this manner:

**PLANNED ACTIVITY:**
**A Two-Semester, Art-History Survey**

The first semester will be open to all undergraduates except art majors; the second, to all undergraduates.

The sequence will be implemented in 1979-80, after a 0.50 FTE faculty position for a half-time art historian is allocated to the art department and after $2,000 is allocated to the department for the purchase of the Groenigen Art-History Slide Series.

*Planning Form II*

Planning Form II, illustrated in figure 17, can assist in preparing, reporting, and reviewing program objectives and planned activities.

Planning Form II provides the following information:

1979-80—First priority

- The first program objective of the art department of the year immediately ahead (1979-80) is that of faculty development.
- To implement this program objective, the art department will require $2,100 for three faculty members to attend the International Conference on Renaissance Painting; by listing this figure on the planning form, the department is showing that it is requesting

FIGURE 17

PLANNING FORM II
PROGRAM OBJECTIVES AND PLANNED ACTIVITIES FOR 1979-80 AND 1980-81

Planning Unit: Art Department

Planning Committee's Designated Chairperson: Jane Smith

*Program objectives are to be listed in priority order for 1979-80*

| Year | Priority | Program Objective | Relation to Education Plan | Planned Activity | Additional Resources Required |
|---|---|---|---|---|---|
| 1979-80 | 1 | Faculty development (additional information on Planning Form III) | Provide opportunities for faculty to remain current in their discipline | 3 art-department faculty attend the International Conference on Renaissance Painting (additional information on Planning Form III) | $2,100 travel (additional information on Planning Form III) |
| 1979-80 | 2 | Undergraduate emphasis in art history (additional information on Planning Form III) | • Provide cultural-awareness activity<br>• Provide general-education offering (additional information on Planning Form III) | Two-semester, art-history survey (additional information on Planning Form III) | • 0.50 faculty FTE (art historian)<br>• $2,000 equipment (slides) (additional information on Planning Form III) |
| 1980-81 | No priority needed | Expansion of ceramics program | Increase fine-arts opportunities for all students | Increase size of class | • $4,000 equipment (4 kilns)<br>• $1,000 materials |
| 1980-81 | No priority needed | Undergraduate art gallery | Increase fine-arts opportunities for all students | Bimonthly displays of student art work | • 30 x 40 room<br>• $3,000 equipment (lighting)<br>• 0.25 faculty FTE (gallery director)<br>• $250 publicity |

funds beyond its projected amount (the cost and revenue projection distributed to each planning unit, as described on p. 45).

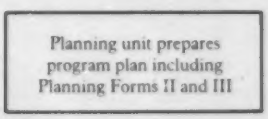
- This request responds to the part of the Education Plan that calls for opportunities for faculty to remain current in their discipline.
- Additional information regarding this request can be found on Planning Form III.

1979-80—Second priority

- The second program objective of the art department for the year immediately ahead (1979-80) is that of an undergraduate emphasis in art history.
- To implement this program objective, the art department will require $2,000 for the purchase of slides and a 0.50 faculty FTE for an art historian; these funds, like those for the first program objective, are in addition to the estimated amounts described for the department by the faculty-FTE estimates and the cost and revenue projections.

*Planning Form III*

Some program objectives will require more information than that provided by Planning Form II. This additional information should be presented on Planning Form III, illustrated in figure 18. The separation of basic from additional information on Planning Forms II and III allows the reader first to survey the program objectives and then to examine them in more detail if necessary.



## FIGURE 18

### PLANNING FORM III

### ADDITIONAL INFORMATION IN SUPPORT OF PROGRAM OBJECTIVES AND PLANNED ACTIVITIES

Planning Unit: Art Department

Planning Committee's Designated Chairperson: Jane Smith

*Additional aspects of each program objective listed on Planning Form II should be described, including relationship to institutional goals, criteria for evaluation, time required for implementation, and specific resources and budgets required.*

| Year | Planned Objective | Planned Activity |
|---|---|---|
| 1979-80 | Faculty development (Priority 1) | Three art-department faculty to attend the International Conference on Renaissance Painting |

Past constraints on faculty-development funds have prevented many art-department faculty from improving their teaching and scholarship. This planned objective would exploit a rare opportunity, for the International Conference on Renaissance Painting in November 1979 will not be held in this country again until 1985. Art faculty members Smith, Jones, and Dooley would attend the conference and then conduct a seminar on campus for the rest of the department. Travel and conference expenses of $700 per person are requested to meet a portion of the total $3000 required. Art-department travel funds will provide the additional $900.

| Year | Planned Objective | Planned Activity |
|---|---|---|
| 1979-80 | Undergraduate emphasis in art history (Priority 2) | Two-semester, art-history survey |

To accomplish the institution's stated goals of increasing the cultural awareness of undergraduates and providing a general-education course in art, a one-year, undergraduate art-history program will be developed. Enrollment of 25 or more students in each course will indicate success. The program will consist of two courses, the first open to any undergraduate except art majors, to be implemented in 1979-80. Implementation requires additional resources beyond previous planning figures: 0.50 FTE for a half-time art historian and $2,000 in equipment funds for purchase of the Groenigen Art-History Slide Series.

## Month 5-Month 7—Review and Critique of Program Plans By the Organizational Unit

### Preparation of Program Plan by the Organizational Unit

*Organizational Unit's Program Planning Committee*

At the beginning of month 5, individual planning units forward to the organizational unit their annual planning proposals, including Planning Forms II and III, for review and critique. The organizational unit then determines how well the proposals help it fulfill its role and accomplish the Education Plan. To perform this review, each organizational unit should appoint a program planning committee, in accordance with its governing procedures. The committee should represent the individual planning units that constitute the organizational unit; its chairperson should be the administrative officer (dean, director, vice-president) responsible for the organizational unit. The committee should:

1. Review and critique each planning unit's program plan
2. Develop and recommend a program plan for the organizational unit to follow during the next three years
3. Act as the liaison for planning between the organizational unit and all other planning units and activities

**BEGINNING OF MONTH 5**

Organizational unit appoints committee for planning purposes

*Organizational-Unit Review and Critique*

To develop its program plan, the organizational unit should carefully evaluate the program plans of the individual planning units. While the organizational unit's program plan should be more than a collection of those of the individual planning units, its essential characteristics should be shaped by them. Most of the program objectives proposed by the organizational unit will be those developed by the individual planning units. However, the organizational unit may sometimes itself develop a program objective, such as improving academic advising, that would include all its planning units. It is important to remember, though, that the credibility and effectiveness of planning depend on recognition of the individual planning unit as the most important element in formulating programs.

As mentioned in chapter 2, the evaluation of the individual program plans includes:

1. Assessing the extent to which each proposal conforms to the Education Plan and the results of institutional studies
2. Determining the relative priority of each proposal

3. Drafting a statement explaining the committee's return of a proposal to an individual planning unit

*Planning Form IV*

Planning Form IV can assist in this evaluation. It indicates the priority given each proposal on Planning Form II by each individual planning unit; the subsequent priority of the proposal in the organizational unit's plan; the subject of the proposal (program initiation, maintenance, improvement, reduction, or deletion); and the rationale for the proposal in terms of the Education Plan, supportive information, and goals of the organizational unit. Planning Form IV helps the organizational unit communicate to the individual planning unit and report to the next level of review the essence of the organizational unit's plan. It adds to the information provided on Planning Forms II and III the judgments of the organizational unit regarding priorities among programs. It also provides any additional information regarding the organizational unit's understanding of the relationships between its own goals and the Education Plan.

Figure 19 illustrates the use of this form. It shows that the program planning committee of the College of Fine Arts, which includes the art department as a planning unit, has given the program objective ranked second by the art department (undergraduate emphasis in art history) a number four priority in its own ranking of program objectives. Though the College considers three program objectives from other planning units to be more valuable than this one, it agrees with the art department's assessment on Planning Forms II and III of the relationship of the program objective to the Education Plan, and also has provided three reasons explaining how the program objective supports the goals of the College. The College also states that additional support for the program objective can be found in the backlog of registration requests by students for an introductory art course. Finally, the College, in agreeing with the art department's assessment of the resources required for implementation of the program objective, expects that no other additional resources will be required.

*Missing: Art-Department Priority for 1979-80*

The College of Fine Arts considers the second priority of the art department, an undergraduate emphasis in art history, to be more important than its first one of faculty development, which does not even appear on Planning Form IV. However, the College should not rerank the art department's program objectives without providing a written explanation to the art department. The explanation should be based on the same criteria as the proposal: namely, the College's goals and objectives. The absence of such an explanation can diminish the credibility of the organizational unit and jeopardize future planning, since the individual planning units will lack the information necessary to develop proposals that reflect the goals of the organizational unit.

FIGURE 19

PLANNING FORM IV

ORGANIZATIONAL-UNIT PROGRAM OBJECTIVES, PLANNED ACTIVITIES, AND RATIONALE

Organizational Unit: College of Fine Arts

Program Planning Committee Chairperson: Dean Jones

*Program objectives are to be listed in priority order for 1979-80*

| Year | Planning-Unit Priority | Organizational-Unit Priority | Program Objective | Initiation, Maintenance, Improvement, Reduction, or Deletion | Relation to Education Plan | Relation to Organizational Unit's Goals and Objectives | Supporting Information | Planned Activity | Resources Required |
|---|---|---|---|---|---|---|---|---|---|
| • • • | • • • | • • • | • • • | • • • | • • • | • • • | • • • | • • • | • • • |
| 1979-80 | 2 (Art Dept.) | 4 | Undergraduate emphasis in art history | Initiation | 1. Provide cultural-awareness activity<br>2. Provide general-education offering | 1. Meet increased students' demands for art courses<br>2. Move college into supporting more nonprofessional programs<br>3. Increase diversity of faculty | Backlog of students desiring general art course | Two-semester, art-history survey | 1. 0.50 faculty FTE (art historian)<br>2. $2,000 equipment (slides) |

A one-year undergraduate program in art history will be developed. This objective reflects the institution's stated goals of providing increased cultural awareness for undergraduates and a general-education offering in art. It also reflects the College of Fine Arts goals of being responsive to student demand for art courses, increasing its support of nonprofessional programs, and increasing the diversity of its faculty.

This program objective will be evaluated according to the criterion of student enrollment. Registration requests show a backlog of 300 student requests for general art, which the availability of this sequence will alleviate. Enrollments of 25 or more students in each course will indicate success.

The sequence will consist of two courses, the first open to any undergraduate except art majors. The sequence will be implemented in 1979-80.

Implementation requires additional resources beyond the planning figures. A 0.50 FTE faculty position is needed for a half-time art historian. Also, $2,000 in equipment funds is needed to purchase the Groenigen Art-History Slide Series.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1979-80 | 1 (Math Dept.) | 5 | • • • | • • • | • • • | • • • | • • • | • • • | • • • |

*Organizational-Unit Program Plan*

Planning Form V, which discusses issues important to the organizational unit that cannot be classified as program objectives, should accompany Planning Form IV. One such issue might be the lack of adequate study space on weekends. Since this issue could involve library hours, residence-hall regulations, and access to buildings, it would exceed the jurisdiction of any one planning unit and thus could not be listed on Planning Form IV. Figure 20 illustrates the use of Planning Form V.

FIGURE 20

PLANNING FORM V
ORGANIZATIONAL-UNIT ISSUES

Organizational Unit: College of Fine Arts

Planning-Committee Chairperson: Dean Jones

| Issue | Descriptive Information |
|---|---|
| Lack of adequate study space during weekends | Students and faculty have repeatedly complained about the lack of study space during weekends. Because this is a residential campus, adequate study space during weekends is a necessity. To eliminate this problem, policies regarding library hours and residence-hall regulations should be revised. |

In summary, the organizational unit's program plan consists of:

1. Planning Form IV, with a discussion of each program objective
2. Planning Form V, with a discussion of each issue that cannot be classified as a program objective

**MONTH 5 — MONTH 7**

Organizational unit's program planning committee reviews and critiques program plans of individual units and formulates organizational unit's program plan, including Planning Forms IV and V

## Month 8-Month 10—Review and Critique of Program Plans By Institution-wide Group

The form of institutional review and critique will depend on the governance structure of the institution. Most likely, this review and critique will be performed either by a group representing faculty, students, and administrators; a group of executive administrators responsible for academic affairs, students affairs, public affairs, administration and support, finance, and development; or a combination of the two groups. Whatever the composition of the group, it should be chaired by the executive administrator (president, provost, executive vice-president) who directs and administers the entire planning effort. This institution-wide group should:

1. Review and critique each organizational unit's program plan
2. Develop and recommend a program plan for the institution to cover the next three years
3. Act as a liaison for planning between the institutional and the organizational-unit levels

**BEGINNING OF MONTH 8**

Institution-wide group begins review and critique of organizational-unit program plans

### INSTITUTIONAL PROGRAM PLAN

Since the institutional program plan can serve many purposes, no single format is suggested. Public institutions can use the plan as a resource-request document for funders in the state or community-college district, as did several institutions that participated in the development of this *Handbook*. Private institutions can use the plan to organize fund-raising and development activities and inform trustees or church-related groups of institutional direction, as did other institutions. Regardless of how the plan is used to help raise funds, *it should provide the framework and rationale for the allocation and reallocation of resources and for the forthcoming institutional budget.* Unless those involved in the planning process see that their efforts affect the allocation and reallocation of resources and the budget, planning will be minimally effective and possibly counterproductive.

**MONTH 8 — MONTH 10**

Institution-wide group develops and recommends institution's program plan

## Month 11-Month 12—Review and Approval Of the Institutional Program Plan

The last 2 months of the year encompass the final review, approval, and implementation of the institutional program plan, especially recruiting faculty or staff, ordering equipment and supplies, and approving curricula. In addition, final budgets are prepared during these months according to planning decisions. These tasks, however, should now be easier, since the various planning units and the planning staff have already completed most of the work during the preceding 10 months.

### REVIEW OF THE INSTITUTIONAL PROGRAM PLAN BY THE SENATE, PRESIDENT, AND BOARD OF CONTROL

Final review and approval of the institutional program plan will probably involve the senate, the president, and, ultimately, the board of control. Institutional policy will dictate the process for this review; however, its timing is critical, since implementation will often include recruitment of faculty and staff, which should not be started too late in the year. Sufficient time is required for equipment and supply orders, which are often made competitively. Proper timing is necessary, too, for decisions about space and renovation, since certain times of the year are usually better suited for improving the physical plant and assigning or reassigning space. Similarly, curriculum decisions need to be made by certain dates so that the institutional bulletin will reach students at the appropriate time.

### IMPLEMENTATION OF PLANNING DECISIONS

Implementation of the results of one year marks the beginning of the next. At the end of the year, projections are revised and recast in terms of the experience of the past 12 months.

**MONTH 11 — MONTH 12**

Senate, president, and board of control review and approve institutional program plan;
plan is implemented;
annual cycle begins anew

# Epilogue

These concluding observations, stimulated during a reading of this *Handbook,* derive from administrative service in three very different kinds of colleges and universities. By familiar if superficial classifications, one is a large, public, comprehensive university; another is a small, private, liberal-arts college; and the third is a new, state-supported but regional university, whose enrollment is limited to juniors, seniors, and graduate students. In none of these, at least when I first experienced them, could it be said that the institution had a well-developed, long-term plan or a widely accepted process for formulating, proposing, implementing, appraising, and revising such a plan. For different reasons, each of the institutions, with leadership of varying styles, sets about to establish a planning process; to authorize it to initiate, develop, and adopt forecasts of probable trends; and to select among alternative proposals for realizing a preferred future. My experience in these three settings causes me to share the principal recommendation of this *Handbook:* it is more important to plan with almost any reasonable available planning process than to invest time, effort, or expense in inventing or perfecting an indigenous process. Colleges and universities without formal planning processes will do their faculty, staff, alumni, and other constituents a favor by introducing a planning scheme such as the one outlined in this NCHEMS *Handbook.* If this one seems not to fit the peculiarities of the institution, other models abound and are readily adaptable. The pertinent advice is to proceed with planning.

This surely is a relevant question, deserving of answer. It will be asked by skeptical faculty colleagues, some of whom simultaneously take for granted the necessity of national economic planning, who routinely endorse regional health-planning efforts, and who wonder in dismay why state and federal governments fail to plan for better systems of long-distance transportation. Faculty are not alone in their doubts about planning, however. Some administrative colleagues will feel threatened by a new process that competes with one they have previously introduced for their range of responsibilities or by the necessity that planning imposes to make explicit the hierarchical order among their priorities. Some alumni will regard planning as so much mumbo-jumbo (and in certain instances they could be right) and another cause for delay in resolving problems at alma mater. There is likely also to be an influential legislator whose doubts will appear in a local newspaper; he or she will wonder about "more planning and less" in the indecisive halls of ivy. And perhaps there will appear a foundation executive or prospective donor who will demand to see the institution's long-term plan and, upon seeing it, will find reason to quarrel with it and thus withhold the hoped-for gift. All these doubting and irritable Thomases serve a useful role: the institution's surest guarantee against adopting a radical or incompetent long-term academic plan is the healthy skepticism among those who are affected by or interested in it.

This skepticism, however, does not deserve to thwart planning—a continuing exercise in relatively systematic, explicit thinking about the future and the ordering of priorities and resources for realizing some preferred state in the future. Whatever we do, whether we plan or do not plan, there will be a future. Thinking about the future is one of the luxuries of the affluent twentieth century. For a college or a university, the future may be desirable or difficult, or it may signal the demise of the institution. The determination of that future may be left to external factors over which the participants in the institution have no control, or to random factors over which members may exercise some influence, or to neglect. Alternatively, the future also may be determined by assessing probable external conditions and their relative consequences for the institution and then trying to do better than chance would predict in influencing the internal factors that affect the future. (If any constituent of a college or university believes to neglect is better than to try, he or she should have quit reading this *Handbook* long ago and is not to be bored with any argument about why almost any plan is better than no plan.)

For all skeptics, the case for planning is the same. Planning, like budgeting and decisionmaking in general, deals with the allocation of

resources that are usually scarce in relation to demand. Planning, like thinking, encompasses discovering ways in which people can increase the probabilities that they will realize their preferences. In colleges and universities, the isolated act of appointing one full-time instructor, to choose a familiar example, at a salary of $15,000 for nine months, carries with it a trail of costs not readily apparent. First to appear are fringe benefits, then supporting services (such as secretarial, laboratory, travel, library). There follows the implication that a continuing (that is, tenured) appointment is being earned, with periodic additions to salary and support services. Not so easily calculable is the relative cost-benefit ratio of an appointment in a subject presently attracting few students compared with one of current popularity, for which the addition of an instructor will allow for the admission of enough full-paying students whose tuition and state subsidies will more than pay the salary and related expenses of the new instructor and thus will, in fact, subsidize instruction in another field.

The case for planning also assumes that the membership, or constituencies, of a college or university will be affected by institutional choices and that by some process, members should share in making these choices. A benevolent despot called Dean could do all that we expect from a planning process. Such deans have lived, their institutions flourished, their faculties prospered, and their students benefited. Such deans, however, have been few in number; not enough of them now are willing to serve to provide one for every college. The poor but readily available substitute is a crutch known as planning.

Planning is, however, more than a surrogate for the arbitrary and capricious decisions of the experienced, farseeing, judicious, and wise academic dean. It offers an opportunity, in whatever format the institution adopts, for the membership of a college or university to form and share a common map of the institution's present status, probable resources, and alternative futures. As is well known, modern faculties are not content to place their confidence in omniscient administrators. It is less well known that, given the limited number of us who are all-knowing, faculties are correct in their appraisal. I take it faculty colleagues wish not so much to know the future (how could they, if *we* do not? how could they, if *they* teach Marlowe or Goethe?) as they wish to participate in shaping the future. Whether any process can shape the future to its participants' preferences is an empirical question to which there is no a priori answer, only a predisposition. The contemporary predisposition, however presumptive or arrogant, is not only "yes," but that even if the process fails, participants prefer to be parties to causing the shipwreck than to be uncontributing factors in disasters. That they feel differently about their organizations than they do about their vehicles of transportation is irrelevant.

## PLAN ABOUT WHAT?

None of the colleges or universities to which this *Handbook* applies can fail to plan primarily for expenses. Perhaps two or three universities enjoy the luxury of emphasizing expenditure first, then revenue. They are as lucky as they are exceptional, and society should be grateful for their presence. If income forecasting is the principal ingredient in planning, it takes its most likely shape in enrollment. The reason is simple: most college or university income derives from student tuition or state support (usually dependent on the number of full-time students at varying levels of instruction and in programs of study with varying costs). Whatever the details of funding formulas, the likely pool of potential students is the critical factor in college income. Endowment income is crucial in some institutions, a necessity in others, a largess in a few. Annual-giving campaigns, whether among alumni or friends, enjoy much the same status as earnings on investments. Whether public or private, however, income is largely enrollment-driven.

Therefore those whose eyes are on the future look at potential clientele—classified by age, previous education, accessibility to campus, capacity to pay, and similar predispositions to enroll. Over these predispositions, the college has some control. It can change its admission requirements. It can, within limitations, alter its costs or change its charges. It can teach off campus. Yet there are limits to what it can do to entice clients to its existing curricula. With a few exceptions, if it does not offer programs preferred by students, it does not enroll the students. Therein lies the second major factor in calculating enrollment: programs.

As I see it, colleges and universities have two alternative ways of identifying and appealing to future students. The first is to stipulate the content of a degree from X University and make it so attractive that the number of qualified applicants will more than exceed the institution's capacity to accept. (I doubt that many institutions can make themselves so attractive.) The other is to be flexible enough to offer curricula that satisfy changing preferences among clients, real and potential.

Planning serves either alternative, and in a surprisingly similar way. The first requires sufficient reserves in the event the anticipated market does not appear; the second requires reserves that can be allocated to fields in which students express new preferences.

## PLANNING BY WHOM?

The initiation of planning, like any of the other major functions of college and university government, is the responsibility of the officers of administration. The participants in activities of planning need not be, however,

exclusively administrative. In systems of shared governance or collegiality, faculty participation should be encouraged. At the departmental level, faculty involvement is decisive. In aggregating departmental plans into collegiate or university ones, faculty representation is also appropriate. The importance of the participation of faculty and their representatives in planning is threefold. First, the primary elements of an institution's plans are academic; the academicians are among the most *qualified* to advise in developing such plans. Second, their conditions of work are most affected by these plans; therefore they are *entitled* to participate. And third, a plan's effectiveness ultimately depends on its implementation; as the parties who put the academic plan into practice, faculty are *crucial* to its adoption and success.

## LIMITS TO PLANNING

It is appropriate to conclude on a note of modesty about academic planning. Plans are only as good as the people who prepare them, and the limitations on forecasting the future apply every bit as much to academicians as to any class of futurists. Even ideal plans require substantial support or consensus among constituencies. And it goes without saying that plans may be defeated in their implementation. So in urging planning upon our colleagues, we must be careful not to overpromise.

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